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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/679,882	10/05/2000	Hisanori Nakajima	Q61079	7624

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SUGHRUE MION ZINN MACPEAK SEAS PLLC
2100 Pennsylvania Avenue N W
Washington, DC 20037-3213

EXAMINER	
PHAM, THIERRY L	
ART UNIT	**PAPER NUMBER**
2624	

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/679,882	NAKAJIMA ET AL.	
	Examiner	Art Unit	
	Thierry L Pham	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-39 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-39 is/are rejected.

7)☒ Claim(s) 27 and 28 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 05 October 2000 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 5, 8-9.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 27-28 are objected to because of the following informalities: "massage" should read as "message". Appropriate correction is required.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: Double-Side Printing System

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2, 6-7, 11, 16, 22-23, 27-36, 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Kageyama et al (U.S. 5954436).

Regarding claim 1, Kageyama discloses a printer control unit (printer controller, fig. 1) for issuing a command to a printer that is able to perform double-side printing (double-side printing, fig. 1), comprising:

(1) mode designation receiving means (printer controller receives printing commands from host computer, fig. 1) for receiving the designation of double-side printing mode (single/double side printing mode from host computer, fig. 1) in which both surfaces of a printing medium are targeted to be printed;

(2) command generating means (command processing unit, fig. 1) for generating a feed command for correcting the timing (printing task for the second-half printing page is put in the wait state, col. 3, lines 1-10) of feeding the printing medium, in the case where said mode designation receiving means receives the designation of double-side printing mode, for printing a

second image that is to be printed later (second-half page is printed when the waiting time is released, col. 2, lines 65-67 to col. 3, lines 1-10) out of a pair of images to be printed on both surfaces of said printing medium; and

(3) command issuing means (command processing unit, fig. 1) for issuing said feed command (determine when to print the second-half page (i.e. double-side printing), col. 3, lines 1-10 and col. 7, lines 15-25) generated by said command generating means as said command to be supplied to said printer.

Regarding claims 2, 6-7, Kageyama discloses a printer control unit (printer controller, fig. 1) for issuing a command to a printer which suspends the advancement of a printing medium (suspends the printing of the second-half page until the first-half page is completed, col. 3, lines 1-10), which is being fed by the rotation of a feeding roller (all printers include a feeding roller, fig. 3), by a registering roller located forward of said printing medium, comprising:

(1) mode designation receiving means (printer controller receives printing commands from host computer, fig. 1) for receiving the designation of double-side printing mode (single/double side printing mode from host computer, fig. 1) in which both surfaces of the printing medium are target surfaces to be printed;

(2) command generating means (command processing unit, fig. 1) for generating a command, upon receipt of the designation of said double-side printing mode by said mode designation receiving means, for rotating said registering roller in the direction to move said printing medium backward(reverse printing mode, fig. 13-14, col. 13, lines 35-62) before restart of advancement and rotating said feeding roller in accordance with the rotation of said registering roller in order to feed said printing medium for printing a second image (printing second-half page when the waiting time is released and/or when the first-half printing is completed, col. 3, lines 1-10 and col. 7, lines 15-25) that is to be printed later out of a pair of images to be printed on both surfaces of said printing medium; and

(3) command issuing means (command processing unit, fig. 1) for issuing said command generated (determine when to print the second-half page (i.e. double-side printing), col. 3, lines 1-10 and col. 7, lines 15-25) by said command generating means as said command to be supplied to said printer.

Regarding claim 11, please see rejection rationale/basis as described in claim 1 above.

Regarding claim 16, Kageyama further discloses a printer control unit characterized in that in the case where said printer is a printer of the type which suspends the advancement of the printing medium, which is fed by the rotation of a feeding roller, by a registering roller located forward of said printing medium, said command generating means incorporates an instruction for rotating said registering roller in the direction to move said printing media backward and rotating said feeding roller according to the rotation of said registering roller, into the command for delaying the start of feeding the printing medium for printing said second image (figs. 2-12).

Regarding claims 22-23, Kageyama further discloses a printer control unit for issuing a command (fig. 1) to be supplied to an ink-jet printer comprising:

(1) mode designation means (single/double side printing mode, fig. 1) for receiving the designation of the mode between double-side printing mode and one-side printer mode;

(2) transmit-receive means (network, fig. 1-2) for making an inquiry about said ink-jet printer whether or not the double-side printing is possible (i.e. printing task unit, figs. 2-8) when double side printing mode is designated by said mode designation means, receiving a response to said inquiry, and issuing a printing command as said command; and

(3) printing command generation means for: when said transmit-receive means receives the response representing that double-side printing is possible, generating a printing command for double-side printing mode as printing command to be issued by said transmit-receive means receives other responses, generating a first printing command for one-side printing mode relating to one of an odd-number page and an even-numbered page successively (fig. 12, col. 14, lines 10-67) as printing command to be issued by said transmit-receive means, and then generating a second printing command for one-side printing mode relating to the other one of the odd-numbered page and the even-numbered page successively as printing command to be issued by said transmit-receive means.

Regarding claims 27-28, Kageyama further discloses a printer control unit further comprising output means that outputs a message for confirming whether or not ink for double-

side printing is installed in said ink jet printer when double-side printing mode is designated by said mode designation means (figs. 11-15).

Regarding claim 29-30, Kageyama further discloses a printer control unit further comprising reversing time setting means for setting a reversing time required for reversing the printing medium (figs. 41-48) after printing on one of surfaces of a printing medium is finished and be ready for printing on the other surface thereof, and transmitting said reversing time via said transmit-receive means when said ink jet printer is in double-side printing mode.

Regarding claim 31-32, Kageyama further discloses a printer control unit further comprising printing medium type designation means (paper-supply unit command issuing unit, figs. 1-8) for designating type of the printing medium; and storage means (i.e. Ram, fig. 9) for storing the relation (figs. 1-8) between the type of the printing medium that can be specified by said printing medium type specifying means and the reversing time; characterized in that when the type of the printing medium is specified by said printing medium type specifying means, said reversing time setting means (waiting time, fig. 47 and figs. 53-61) refers to the stored contents in said storage means and sets the reversing time corresponding to said type of the printing medium.

Regarding claims 33-36 and 38 recite limitations that are similar and in the same scope of invention as to those in claims 22-23, 27-32 above; therefore, claims 33-36 and 38 are rejected for the same rejection rationale/basis as described in claims 22-23 and 27-32.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 3-5, 8-10, 12-15, 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kageyama as described in claim 1 above, and in view of Inoue et al (U.S. 6273535).

Regarding claim 3, Kageyama does not disclose wherein a printer control unit further comprising detection means for detecting information on the quantity of ink used for printing a first image which is to be printed ahead of the other one of said pair of images.

Inoue, in the same field of endeavor for printing, teaches a printer control unit further comprising detection means (sensing print conditions, figs. 5-9) for detecting information on the quantity of ink used for printing a first image which is to be printed ahead of the other one of said pair of images, characterized in that said command generating means generates a command for rotating said registering roller and said feeding roller at a rotational speed in accordance with information detected by said detecting means on said first image to be printed in combination with said second image as a command for feeding said printing medium for printing said second image (print ink consumption amount with respect to speed, figs. 5-9, col. 7, lines 1-67).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Kageyama as per teachings of Inoue because of a following reason: (1) to improve operating efficiency by rotating the roller at a rotational speed in accordance with ink amount used.

Therefore, it would have been obvious to combine Kageyama with Inoue to obtain the invention as specified in claim 3.

Regarding claims 4, 9-10, 13, the limitations are covered in claim 3, 7, and 11 above and Inoue further teaches a command for rotating roller at a rotational speed in accordance with a type of said printing medium as a command for feeding printing medium on which second image is to be printed (figs. 3-9, cols. 5-8).

Regarding claims 8, 12 & 21, the limitations are covered in claims 7, 11 and Inoue further teaches a printer control unit further comprising detecting means for detecting

information on the quantity of ink used (fig. 5) for printing a first image which is to be printed ahead of the other one of said pair of images.

Regarding claims 14-15, Kageyama further discloses a printer control unit characterized in that said command generating means reduces waiting time before starting feeding the printing medium for printing said second image according tot the time elapsed since printing of said first image is finished (abstract and cols. 2-3).

Regarding claims 17-20, Kageyama further discloses a printer control unit characterized in that in the case where said printer is a printer of the type which suspends the advancement of the printing medium, which is fed by the rotation of a feeding roller, by a registering roller located forward of said printing medium, said command generating means incorporates an instruction for rotating said registering roller in the direction to move said printing media backward and rotating said feeding roller according to the rotation of said registering roller, into the command for delaying the start of feeding the printing medium for printing said second image (figs. 2-12).

7. Claims 24-26, 37, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kageyama as described in claims 22, and/or 38 above, and in view of Myung (U.S. 6053645).

Regarding claims 24-26, 37 and 39, Kageyama does not explicitly disclose a printer control unit further comprising: margin setting means (margin settings, fig. 2) for setting a margin of at least one of an odd-numbered and an even-numbered page; and automatic remaining margin setting means (automatic adjust and set the margin alignment, fig. 2, col. 1, lines 60-67 to col. 2, lines 1-15) for setting a margin in such a manner that, when double-side printing mode is designated by said mode designation means and the margin for one of said odd-numbered page and said even-numbered page is set by said margin setting means, the right margin of one of the pages of which the margins are not set is set to the same width as the left margin of the other page of which said margin are set, and the left margin of one of the pages of which the margins

are not set is set to the same width as the right margin of the other page of which said margins are set.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Kageyama as per teachings of Myung because of a following reason: (1) to automatic align the margin settings; therefore, provides a superior appearance of output printed pages.

Therefore, it would have been obvious to combine Kageyama with Myung to obtain the invention as specified in claims 24-26, 37 and 39.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(1) U.S. 6312073 to Inora, discloses a method for detecting amount of ink used on the printed output pages.

(2) U.S. 6417931 to Mori, discloses a method for margin settings.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thierry L Pham whose telephone number is (703) 305-1897. The examiner can normally be reached on M-F (9:30 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K Moore can be reached on (703)308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thierry L. Pham

GABRIEL GARCIA
PRIMARY EXAMINER